

## **REMARKS**

Claims 1, 3 – 13 and 44 – 49 are now pending in the application. Applicants respectfully request that the Examiner reconsider and withdraw the rejection(s) in view of the amendments and remarks contained herein.

### **OBJECTION TO CLAIMS**

The Examiner objected to claims 46 – 49 as depending from claim 40 that had been cancelled. Applicants have made appropriate amendments so that these claims now depend, directly or indirectly from claim 44.

### **REJECTION UNDER 35 U.S.C. § 102**

Claims 1 and 7 – 13 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Herman et al. (U.S. 5,907,205). Claims 1 and 11 are the independent claims of this group. Applicants have amended these claims and submit that as amended, they are allowable over Herman et al.

Amended claims 1 and 11 are directed to a brushless DC motor. They now require that the end turns of the coils that enclose the rotor assembly are “arranged to minimize any gap between respective ends of the rotor assembly and the end turns adjacent the respective ends of the rotor assembly.” Applicants submit that Herman et al. fails to disclose a brushless DC motor having coils so arranged. Referring to Fig. 4 of Herman et al., it discloses a winding map that shows that the loops of each winding 30 are arranged so that the coil surrounds the rotor magnet 32. But it does not show that the end turns of the coils are so arranged to minimize any air gap between respective ends of the rotor assembly and adjacent end turns of the coils. Similarly, in discussing the arrangement of the coils, Herman et al. just states that the windings 30 are wound or laid into a winding loom in accordance with the winding map example of fig. 4. [Herman et al. col. 3, lines 30 37]<sup>1</sup> Applicants submit that amended claims 1 and 11 are thus allowable over Herman et al.

---

<sup>1</sup> Applicants submitted a similar argument in the response to the Official Action mailed March 29, 2004 in USSN 10/169,638 with regard to a rejection of claim 14 of that application based in part on Herman et al., Serial No. 09/755,330

Claims 7 – 10 depend directly or indirectly from amended claim 1 and claims 12 and 13 depend from amended claim 11, and are allowable for at least that reason.

Claims 44 – 49 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Shramo (U.S. 4,933,581). Claim 44 is the independent claim of this group. Applicants submit that claim 44 is allowable over Shramo.

Claim 44<sup>2</sup> is directed to a brushless DC motor. It requires, *inter alia*, an encapsulated stator defining an interface with a rotor assembly such that an air gap is formed and a seal applied to the interface being adapted to seal the air gap such that the air gap is blocked off. This seals the area inside the winding form not only from outside contaminants, but from contamination that might occur when the stator windings are impregnated. [See, application, p. 7, lines 15 – 23] Shramo, contrary to the Examiner's position, does not disclose a seal applied to an interface defined by an encapsulated stator with a rotor assembly that seals the air gap. The Examiner cites to lines 57 – 66 in col. 2 of Shramo as disclosing such a seal. Applicants have examined this section of Shramo and do not find that it discusses a seal. This section of Shramo references Figs. 1 – 7 of Shramo and discusses that they disclose a large air gap motor 11 having first and second magnetically permeable members 12 and 13 with large air gap 14 between them with winding means 15 disposed in the air gap. Means 16 provides a magnetic flux circulating from the first to the second magnetically permeable member and means 17 provides relative motion between the winding means 15 and the second magnetically permeable member 13. No mention is made of a seal. Applicants have also failed to find any mention of a seal in the remainder of Shramo and do not find any element of Shramo's drawings that constitutes such a seal. Applicants submit that claim 44 is thus allowable over Shramo.

Claims 45 – 49 depend directly or indirectly from claim 44 and are allowable for at least that reason.

---

<sup>2</sup> Applicants amended claim 44 to recite that the plurality of coils are wound about the winding form instead of the winding form being configured to receive the coils for purposes of clarity. This amendment was not related to patentability as applicants' arguments distinguishing claim 44 over Shramo focus on the seal limitation, which has not been amended in this Amendment.

### REJECTION UNDER § 103

Claims 3 – 6 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Herman et al. as applied to claim 1 in view of Shramo. For the reasons discussed above with respect to amended claim 1, applicants submit that Herman et al. fails to disclose the limitations of amended claim 1. Applicants submit that Shramo also fails to disclose the limitations of amended claim 1 and in particular those that require that the end turns of the coils be arranged to minimize any gap between respective ends of the rotor assembly and the end turns adjacent the respective ends of the rotor assembly. Applicants submit that claims 3 – 6 are thus allowable over Herman et al. in view of Shramo.

### CONCLUSION

Applicants believe that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this response is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: August 16, 2004

By: Roland A. Fuller III  
Roland A. Fuller III  
Reg. No. 31,160

HARNESS, DICKEY & PIERCE, P.L.C.  
P.O. Box 828  
Bloomfield Hills, Michigan 48303  
(248) 641-1600

RAF/ss